CLAIMS

WE CLAIM:

1. A content visualization system for rendering a visual summary of content received from a first content source, comprising:

a memory device for receiving and storing content from a first content source;

a content analyzer constructed to analyze the content and to identify one or more features in the content;

a visualization engine constructed to generate a signal corresponding to render a visual representation of the content characterized by the identified features; and

a display device constructed to display the visual representation.

2. The system of claim 1, further comprising a content augmenter for retrieving supplemental information related to the features of the content from a second content source and wherein the visualization engine renders a second signal corresponding to the visual representation of the content based on both the identified features and the supplemental information.

3. The system of claim 1, further comprising a stored user profile and wherein the visualization engine renders the visual representation of the content based on both the identified features and the user profile.

4. The system of claim 1, wherein the visual representation of a multi-dimensional object.

5. The system of claim 4, wherein the multi-dimensional object of the visual representation includes at least two-dimensions.

6. The system of claim 4, wherein the multi-dimensional object of the visual representation includes at least one dimension for each of the identified features.

7. The system of claim 1, wherein one of the identified features measures the prevalence of action scenes in the content.

8. The system of claim 1, wherein one of the identified features is an identity of a person.

9. The system of claim 1, wherein one of the extracted features corresponds to a prevalence of music in the content.

10. The system of claim 1, wherein the visual representation is a three-dimensional axis and wherein different identified features correspond to different axis of the content are represented by a graphical object.

11. The system of claim 10, wherein the positioning of the graphical object relates to the prevalence of the identified feature.

12. The system of claim 10, wherein a fourth dimension is represented by a color of the graphical figure.

13. The system of claim 10, wherein multiple programs of the content are represented on the three-dimensional axis.

14. The system of claim 1, wherein the visual representation comprises a program map including at least one feature category plotted against time.

15. The system of claim 14, wherein existence of the feature associated with the feature category is represented by a colored bar.

16. The system of claim 14, wherein the at least on feature category is plotted against a time portion.

17. The system of claim 1, wherein the visual representation comprises a polygon including a frame of a program of the content on a first side of the polygon and information related to the frame on a second side of the polygon.

18. The system of claim 17, wherein the polygon is rotatable, such that a user can select to view either the first or second side.

19. The system of claim 1, wherein the visual representation comprises a series of multi-dimensional bars of varying heights arranged according to time.

20. The system of claim 1, wherein a level of the extracted features is represented by visualizing the size of a graphical image.

21. The system of claim 1, wherein a level of the extracted features is represented by the color of a graphical image.

22. The system of claim 1, wherein a level of the extracted features is represented by the texture of a graphical image.

23. The system of claim 1, wherein a level of the extracted features is represented by the shape of a graphical image.

24. The system of claim 1, further comprising an input device, wherein a user of the system can search the visual representation.

25. The system of claim 1, wherein the visual representation is presented of being browsed.

26. The system of claim 1, wherein the visual representation is transmitted to a remote device for display thereon.

27. The system of claim 1, wherein a user can interact with the visual representation using an input device.

28. A method of rendering a visual summary of a program, the method comprising:

receiving video content corresponding to a program from an external source;

analyzing the video content to identify and extract features from the video content;

calculating a level for each of the features extracted from the video content based on the prevalence of the features in the video content;

rendering a visual summary according to the calculated level for each of the extracted features; and

displaying the visual summary.

29. The method of claim 28, wherein the level for each of the features is calculated by continuously monitoring an intensity of a presence of the feature in the video content.

30. The method of claim 28, wherein the analyzing of the video source further comprises identifying a person in the video content.

31. The method of claim 30, wherein the person is identified by extracting faces, speech, and text from the video content, making a first match of known faces to the extracted faces, making a second match of known voices to the extracted voices, scanning the extracted text to make a third match to known names, and calculating a probability of a particular person being present in the video source based on the first, second, and third matches.

32. The method of claim 28 wherein the analyzing of the video source to extract stories comprises segmenting the video source into visual, audio and textual components, fusing the information, and segmenting and annotating the story internally.

33. The method of claim 28, wherein the features extracted from the video content are high-level inferences.

34. The method of claim 28, wherein the features extracted from the video content are low-level features.

35. The method of claim 28, further comprising analyzing information stored in a user profile and rendering a visual summary based on the information in the user profile.

36. The method of claim 28, further comprising accessing a second information source and augmenting the visual summary of the program with information gathered from the second information source, the gathered information being related to the features extracted from the video content.